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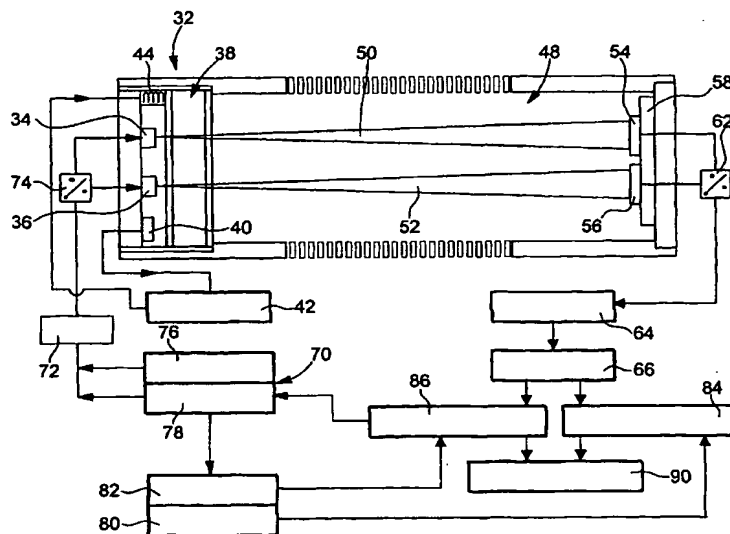
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- (71) Applicant (for all designated States except US): **IR MICROSYSTEMS S.A.** [CH/CH]; PSE - Bât. C, CH-1015 Lausanne (CH).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **WILLING, Bert** [DE/CH]; Grand-Rue 10, CH-1162 St-Prex (CH). **KOHLI, Markus** [CH/CH]; Chemin du Banc-Vert 14, CH-1100 Morges (CH). **SEIFERT, Andreas** [DE/CH]; Chemin de l'Ochettaz 18, CH-1025 St-Sulpice (CH).
- (74) Agent: **ICB; Ingénieurs Conseils en Brevets SA**, Rue des Sors 7, CH-2074 Marin (CH).
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(54) Title: GAS DETECTION METHOD AND GAS DETECTOR DEVICE



(57) **Abstract:** The gas detector device comprises at least a VCSEL source (34, 36) and at least a light sensor (54, 56) for detecting a light beam (50, 52) having passed through a sample chamber (48) containing a given gas to be detected. The sensor is a photodiode in a first embodiment and its detection signal is time derivated by an electronic derivator (64) and then provided to two lock-in amplifiers (84, 86) in order to generate a F-detection and a 2F-detection, F being the frequency of a wavelength modulation of the source, and thus to provide two corresponding measuring signals the division of which gives a precise value of the gas concentration. In a second embodiment, the source is a pyroelectric sensor which directly provides a detection signal proportional to the time derivate of the light beam incident on this sensor. In this last case, the electronic derivator is thus eliminated.

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